

Installation and User Guide



living eco® Electronic Radiator Thermostat

Installation Guide

1. Installation

	1.1	Identify your <i>living eco</i> [®] thermostat	4
	1.2	In the package	4
	1.3	Overview of valve adapters	5
	1.4	Installing the right adapter	6
	1.5	Inserting the batteries	7
	1.6	Using the buttons	7
	1.7	Setting time and date for the first time	8
	1.8	Installing <i>living eco</i> [®]	8
	1.9	Automatic adjustments	9
	1.10	Removing living eco [®]	9
	1.11	Resetting <i>living eco</i> [®] to default settings	10
	1.12	Removing an adapter from <i>living eco</i> ®	10
2.	Techi	nical specifications	11



Scan this QR code with your smartphone and go directly to the *living eco*[®] Installation video on YouTube.



Scan this QR code with your smartphone and go directly to the *living eco*[®] Programming video on YouTube.

User Guide

3.	Display and menus						
	3.1	Home Screen	12				
	3.2	Programme menu	12				
	3.3	Function menu	13				
	3.4	Advanced menu	14				
4.	Temp	perature and programme settings					
	4.1	Setting the comfort temperature	15				
	4.2	Default programme settings	16				
	4.3	Adjusting a setback period	17				
	4.4	Creating a new setback period	18				
	4.5	Deleting a setback period	19				
	4.6	Creating a Travel programme	20				
	4.7	Overrule a Travel programme (early return)	21				
	4.8	Changing an existing Travel programme	21				
	4.9	Deleting a Travel programme	22				
	4.10	Creating a Frost Protection programme	22				
5.	Addi	tional settings					
	5.1	Setting the time	23				
	5.2	Limiting the temperature setting range	23				
	5.3	Deactivating automatic daylight saving time	24				
	5.4	Child Lock	24				
	5.5	Setting the Heating Control	25				
	5.6	Open-window function	25				
	5.7	Adjusting to radiator/room conditions	26				
	5.8	Automatic valve exercising	26				
	5.9	Deactivating intelligent Control (Forecast)	27				
6.	Safet	y precautions	27				
7.	Dispo	osal	27				

Pay a visit to the living web-site, where you find a lot of additional information: animations and videos, a FAQ section, literature and much, much more

living.danfoss.eu

1. Installation

1.1 Identify your *living eco*® thermostat

living eco[®] comes in several versions to meet the demands of different markets.

You identify your version by the code number on the box label. Adapters for a range of different valves types are available as accessories, see chapter 1.3.



Code no.	Version characteristics	Quick guide languages
014G0050	Incl. pre-mounted RA adapter	UK, DE, DK, NL, FR, PL, SE, FI
014G0051	Incl. RA + M30 x 1.5 adapters	UK, DE, DK, NL, FR, PL, SE, FI
014G0052	Incl. RA + M30 x 1.5 adapters	UK, CZ, SK, RU, TR, HU, HR, SI
014G0064	Incl. RA + M30 x 1.5 adapters, Forecast disabled as default	UK, DE, DK, NL, FR, PL, SE, FI

1.2 In the package

living eco[®] 014G0050 is supplied with a pre-mounted adapter for Danfoss RA valves, two alkaline AA batteries, a 2 mm Allen key and a Quick Guide in languages English, German, Danish, Dutch, French, Polish, Swedish and Finnish.



living eco[®] 014G0051, 014G0052 and 014G0064 are supplied with adapters for Danfoss RA valves and valves with M30 x 1.5 (K) connections, two alkaline AA batteries, a 2 mm Allen key and a Quick Guide in English, German, Danish, Dutch, French, Polish, Swedish and Finnish (014G0051 and 014G0064) or in English, Czech, Slovak, Russian, Turkish, Hungarian Croatian and Slovenian (014G0052).













living eco® sensor

Adapter for A RA valves M30

Adapter for M30 x 1.5 (K) valves

Alkaline AA batteries

Allen key, 2 mm

Quick Guide and "Hanger"

1.3 Overview of valve adapters

Adapters for a wide range of different valve types are available as accessories.

Adapter type	Code no.	Adapter	Valve
For Danfoss RA valves	014G0251		
For M30 x 1.5 (K) valves	014G0252		
For Danfoss RAV valves	01460250		
For Danfoss RAVL valves	01400230		
For Danfoss RTD valves	014G0253		
For M28 valves:			
- MMA	014G0255		A
- Herz	014G0256		
- Orkli	014G0257	622	
- COMAP	014G0258		

1.4 Installing the right adapter

Adapter for RA valves (pre-mounted on 014G0050)



Adapter for M30 x 1.5 (K) valves



Adapter for RAV valves (accessory)



Adapter for RAVL valves (accessory)



Adapter for RTD valves (accessory)





Adapters for M28 valves (accessories)

Please follow the instructions supplied with the valve adapter for the specific M28 valve.

1.5 Inserting the batteries

Remove the battery cover and insert two AA batteries. Make sure the batteries are correctly oriented.

Rechargeable batteries **must not** be used.

When replacing batteries the programme settings will be preserved, but after two minutes the settings for time and date are reset.

The low battery symbol 🖾 is displayed approx. one month before the batteries run out.

After approx. two weeks the symbol will flash 14 times from 19:00 to 21:00 hrs.

Before the batteries run out *living eco*[®] will leave the valve in Frost Protection position to protect the heating system from damage.



1.6 Using the buttons

living eco^{\circ} has two arrow buttons $\Im \otimes$ which allow you to navigate the display and the menus and to set the temperature.

The dot button $\overline{}$ is used to select and confirm.

If the display is off, press either button to activate the display.



1.7 Setting time and date for the first time



1.8 Installing living eco®



1.9 Automatic adjustments

When *living eco*[®] is installed it will automatically begin to adjust itself to your heating system. During this process you might experience that the thermostat reacts slowly or turns the heat up and down by itself. This is normal and a necessary part of the adjustment process.

1. Adjusting to the valve

During the first night of operation *living eco*[®] will shut off the radiator heat and then open again to detect the exact opening point of the valve. This will allow *living eco*[®] to control the heat as efficiently as possible. If necessary, the procedure is repeated once a night for up to a week.

2. Intelligent Control (Forecast)

During the first week of operation *living eco*[®] learns when it is necessary to start heating the room in order to reach the correct temperature at the correct time.

The intelligent control will continuously adjust the heating time compared to seasonal temperature changes.

Using Saving Program requires that your heating system has enough heat for a short period during heat up. If your experience problems you should contact your installer.

1.10 Removing living eco®



1. 2. Remove the battery cover and take out one battery. Press and hold Press and hold for approx. 5 seconds, while reinserting the battery.

1.11 Resetting living eco® to default settings

1.12 Removing an adapter from living eco®



2. Technical specifications

Thermostat type	Programmable electronic radiator valve controller
Recommended use	Residential (pollution degree 2)
Actuator	Electromechanical
Display	Grey digital with backlight
Software classification	A
Control	PID
Power supply	2 x 1.5 V alkaline AA batteries
Power consumption	3 μW in standby 1.2 W when active
Battery life	2 years
Low batteri signal	Battery icon will flash in display. If battery level is critical, the whole display will flash.
Ambient temperature range	0 to 40 °C
Transportation temperature range	-20 to 65 °C
Maximum water temperature	90 °C
Temperature setting range	4 to 28 °C
Measurement interval	Measures temperature every minute
Clock accuracy	+/- 10 min/year
Spindle movement	Linear, up to 4.5 mm, max. 2 mm on valve (1 mm/s)
Noise level	<30 dBA
Safety classification	Type 1
Open-window function	Activated at temperature drop of approx. 0.5 °C over 3 minutes
Weight (incl. batteries)	177 g (with RA adapter)
IP class	20 (not to be used in hazardous installations or in places where it will be exposed to water)
Approvals, markings etc.	Intertek

3. Display and menus

3.1 Home Screen

When pressing • the Home Screen appears with basic information on programming and operation of *living eco*[®]:



* living eco[®] is displaying the set temperature, not the measured room temperature.

3.2 Programme menu



Display symbols in the Programme menu

PO	Programme without automatic temperature reduction. This programme maintains the temperature constant all day and night.
P ₁	Saving programme which as default lowers the temperature to 17 °C at night (22:30 - 06:00 hrs). Time and temperature are configurable.
P2	Extended saving programme which as default lowers the temperature to 17 °C at night (22:30 - 06:00 hrs), and during the day on weekdays (08:00 - 16:00 hrs). Time and temperature are configurable.
	Travel programme which lowers the temperature when you are away. Time and temperature are configurable.
*	Frost protection program. The thermostat will maintain a constant temperature of 4-10 $^\circ\mathrm{C}$ in the room, ensuring frost protection.

Note! Symbols must be flashing to be activated.

3.3 Function menu



Display symbols in the Function menu

הי	Installation Mode must always be activated when installing or removing <i>living eco</i> [®] . The thermostat may be irreparably damaged if not in the correct position during installation.
1	Child Lock - see chapter 5.4.
MAX MIN	Set the max and min temperature range - see chapter 5.2.
9	Set time and date - see chapter 5.1.

Note! Symbols must be flashing to be activated.

3.4 Advanced menu



Display symbols in the Advanced menu

	Back.
\checkmark	Confirm selection.
	Low battery symbol.
Ð	Period setting for the Travel programme.
dS	Deactivate/activate automatic daylight saving time - see chapter 5.3.
Pb	Adjust <i>living eco</i> [®] to radiator/room conditions - see chapter 5.7.
Fa	Deactivate/activate intelligent control (Forecast) - see chapter 5.9.
Hc	Select moderate or quick heating control - see chapter 5.5

Note! Symbols must be flashing to be activated.

4. Temperature and programme settings

4.1 Setting the comfort temperature



Note! If the set temperature is raised more than 1 °C living eco[®] will boost the radiator heat to reach the new temperature faster. You can feel the valve and radiator are getting warmer. Minor temperature changes will not evoke a heat boost, and so the changes are made without any immediate indication.

4.2 Default programme settings

Programme P₀

This programme is without automatic temperature reduction. It will maintain the temperature at a constant comfort level all day and night.

The default comfort temperature is 21 °C, but can be adjusted to any level between 6 and 28 °C.

0	3	6	9	12	15	18	21	24
				21 °C				

Programme P₁

This is the default savings programme, which has a comfort temperature of 21 °C and one setback period from 22:30 to 6:00 hrs with a temperature of 17 °C. Time and temperature are configurable for both comfort and setback periods.

0	3	6	9	12	15	18	21	24
	17 °C				21 °C			17 °C

Programme P₂

Wookdaye

This is the extended savings programme with a setback period from 22:30 to 6:00 hrs and an additional setback period from 8:00 to 16:00 hrs on weekdays. Time and temperature are configurable for both comfort and setback periods.

WEEK	luys.								
0	3	6	9	12	15	18	21	24	
	17 °C	21 °C		17 °C		21 °C		17 °C	
Weeke	end:								
0	3	6	9	12	15	18	21	24	
	17 °C		21 °C						

Travel Programme

This programme keeps the setback temperature (default 17 °C) all day and night. Use the programme to save energy, when you are away from home. Time and temperature are configurable.

0	3	6	9	12	15	18	21	24

Frost Protection Programme

This programme keeps a low temperature (default 6 $^{\circ}$ C) all day and night. Use the programme to prevent damage of the radiator, when you are away from home. The temperature is configurable.

0	3	6	9	12	15	18	21	24
6 °C								





4.4 Creating a new setback period

living eco[®] allows you to create up to three setback periods for each day.

1. ^P 0 ³ P ⁴ ₅ P ₂ 1 ⊮ ₩	P. MoTuWeThFrSaSu
If the display is off, press , then press again to open the programme menu. Use Mode to select the desired programme. When the chosen programme is flashing, press to confirm.	Use 🖗 to select the desired period - choose between the weekend, all weekdays or a single day. When the chosen day(s) flashes, press 💿 to select.
3. 24	4. When the start time for the new setback period flashes, use 3 to set the time and press \sim to confirm.
5. P1 P1 P1 P1 P1 P1 P1 P1 P1 P1	6. P1 ²⁴ 08:30 12:00 18 We // C 6 12 0
Now the end time flashes. Use 🐼 to set the end time and press 💿 to confirm.	Now the setback temperature flashes. Use (MA) to set the temperature and press to confirm.

4.5 Deleting a setback period



4.6 Creating a Travel programme

A Travel programme keeps the setback temperature for a period, defined by you. Use a Travel programme to save energy, when you are away from home.

1. Po P1 P2 I I I I I I I I I I I I I I I I I I	2.
3. 25.03 – 25:03 The day of return is flashing. Use A to set the day of return, press • to confirm. Now the month of return is flashing. Use A to set the month of return, press • to confirm.	4. 25.03 - 25:03 The setback temperature is flashing. Use Set to set the setback temperature, press Set to confirm.
 5. 25.03 _ 25:03 25.03 _ 25:03 17 € 17 € 17 € 18 flashes, press to confirm your Travel programme. is now displayed on the Home Screen. 	6. P1 P1 P1 P1 P1 P1 P1 P1 P1 P1

User Guide

4.7 Overrule a Travel programme (early return)

If returning earlier than expected you might wish to shift from the Travel programme to your normal programme.



4.8 Changing an existing Travel programme



4.9 Deleting a Travel programme



4.10 Creating a Frost Protection programme

The frost protection programme keeps the setback temperature until another programme is selected.



5. Additional settings

5.1 Setting the time



5.2 Limiting the temperature setting range





5.3 Deactivating automatic daylight saving time

5.4 Child Lock

Protect your living eco® settings from tampering by activating the Child Lock.







5.6 Open-window function

living eco[®] features an Open-window function, which closes the valve if the room temperature is falling dramatically, thus reducing the heat loss. The heat is turned off for up to 30 minutes, before *living eco*[®] returns to its original settings. When Open-window has been activated, the function is quarantined for 45 minutes.

Note! Be aware that the Open-window function will be affected, if curtains or furniture is covering living eco[®], thus preventing it from detecting the decreasing temperature.



5.7 Adjusting to radiator/room conditions

Change this setting if the radiator is over- or undersized for the room. This will help *living eco*[®] to work more efficiently.



5.8 Automatic valve exercising

To keep the radiator valve functional and at its best, *living eco*[®] automatically exercises the valve every Thursday at approx. 11:00 hrs by opening it fully and then return to normal setting.

User Guide

5.9 Deactivating intelligent Control (Forecast)

The Intelligent Control (Forecast) ensures that *living eco*[®] reaches the comfort temperature on time, according to the settings. This default function can be deactivated.



6. Safety precautions

The thermostat is not intended for children and must not be used as a toy.

Do not leave packaging materials where children may be tempted to play with them, as this is extremely dangerous.

Do not attempt to dismantle the thermostat as it contains no user-serviceable parts. If error code E1, E2 etc. is shown in the display or other defects appear, please return the thermostat to the distributor.

7. Disposal

The thermostat must be disposed of as electronic waste.



Installer

Danfoss A/S

Haarupvaenget 11 DK-8600 Silkeborg Denmark Phone: +45 7488 8000 Fax: +45 7488 8100 www.danfoss.com www.living.danfoss.eu

Danloss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danloss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All rademarks in this material are property of the respective companies. Danloss and the Danloss logotype are trademarks of Danloss XS. All rights reserved.